

ON A NEW GENUS AND SPECIES OF NIDALIID OCTOCORAL (COELENTERATA: OCTOCORALLIA) FROM THE SOUTH CHINA SEA.

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ABSTRACT

Orlikia palmata, a new genus and species of the Alcyonacean family Nidaliidae, is described, based upon specimens collected in the Gulf of Tonkin, South China Sea.

KEYWORDS: *Orlikia*, Coelenterata, Octocorallia, Alcyonacea, Gulf of Tonkin.

INTRODUCTION

A brief examination of octocorals in the collection of the Zoological Institute, Leningrad, revealed a number of unusual specimens belonging to a new species of the octocoral family Nidaliidae. They were unusual in having an unbranched colonial form; in the rigid, brittle consistency of the colony, which is due to longitudinally disposed large spindle-like sclerites in the outer surface; and in having prominent slender calyces into which the anthocodiae are completely withdrawn. As this species differs markedly from all other representatives of the family, it was necessary to erect a new genus so that it may be accommodated.

SYSTEMATICS

Family Nidaliidae Gray, 1869 Genus *Orlikia* gen. nov.

Diagnosis. Nidaliidae with palm-like wide polyparium and long, narrow stalk. Polyps monomorphic, completely retractile within firm, well-differentiated and prominent terminally situated calyces. Anthocodiae with distinct crown and points. Introvert containing large oval- and rod-shaped sclerites. Coenenchymal sclerites slender, weakly spined spindles, reaching a length of 3.5 mm. Type-species of the genus: *Orlikia palmata* gen. et sp. nov.

Remarks. Within the Nidaliidae, the genus *Nidaliopsis* Kukenthal, 1906, is dimorphic and

differs from *Orlikia* in both the form of the colony and the sclerites. The genera with monomorphic polyps are *Siphonogorgia* Kolliker, 1875; *Chironephthya* Studer, 1887; *Agaricoides* Simpson, 1905; *Pieterfaurea* Verseveldt and Bayer, 1988, and *Nidalia* Gray, 1835. Colonies of both *Siphonogorgia* and *Chironephthya* are repeatedly branched and reach a moderate to large size (up to 750 mm tall). They also have polyps distributed along both the twigs and the branches and are not just terminally situated as in *Orlikia*. The mushroom-shaped colonies of *Agaricoides* have calyces distally enlarged as characteristic octagonal expansions that make the genus very distinct. *Pieterfaurea* is remarkable for its unbranched digitiform colonies and absence of calyces and polyp sclerites. Compared to *Nidalia*, colonies of the genus *Orlikia* could be considered basically similar but are easily distinguished by their palmate colony form, the tall slender calyces, the nature of the surface sclerites and the spiculation of the polyp introvert and the anthocodial armature. It is significant to note that the presence of numerous large introvert sclerites, the same size as those in the points and the crown, seems to be unusual among the Octocorallia (Verseveldt and Bayer 1988:9).

Although the form of the colony and the extremely tall and prominent calyces may be a response to the conditions of very high sedimentation occurring in the Gulf of Tonkin, I consider it is more reasonable to erect a new genus rather than extend the generic limits of *Nidalia* to allow its inclusion.

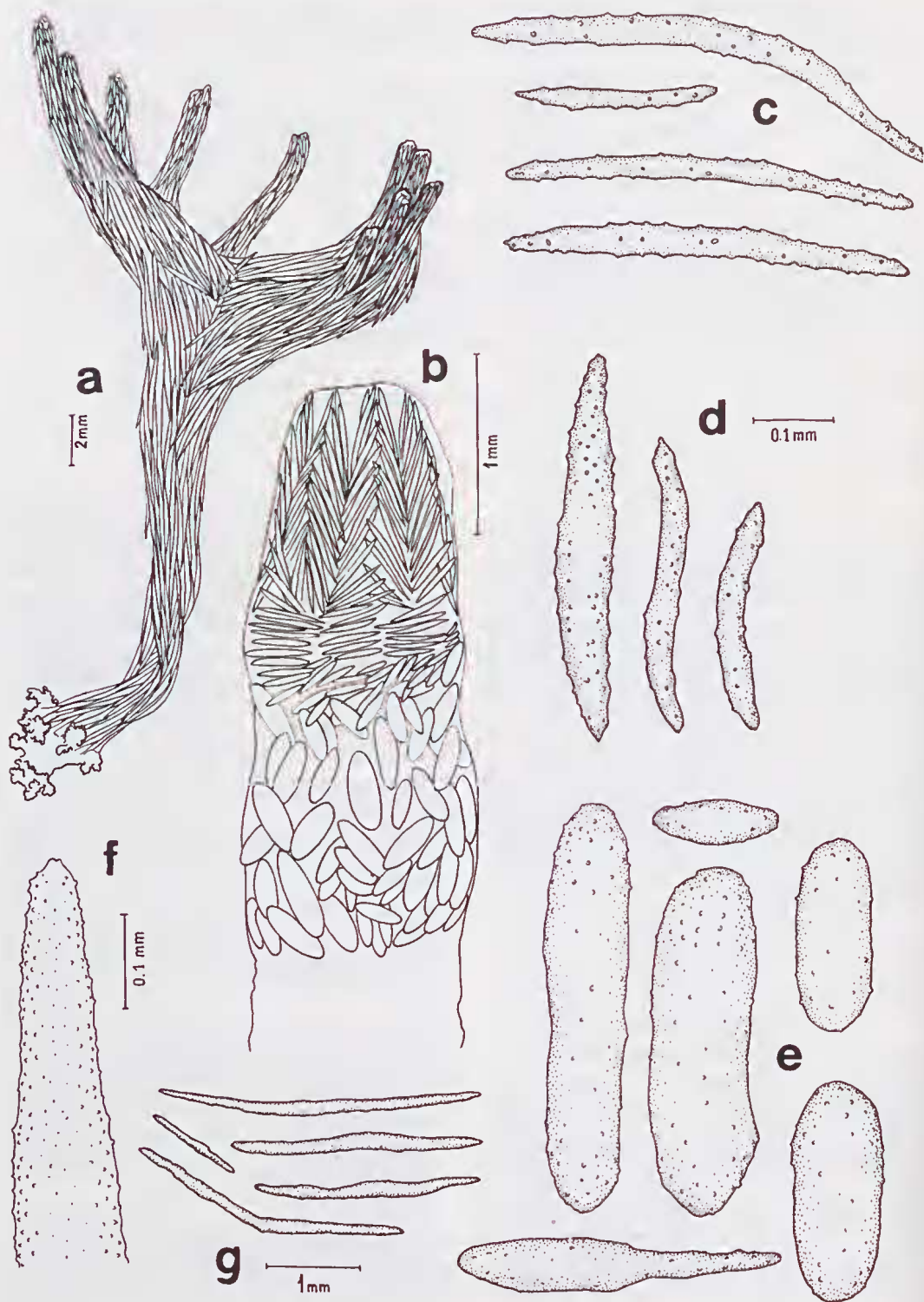


Fig. 1. *Orlikia palmata* gen. et sp. nov. a, holotype; b, anthocodial armature; c, sclerites from the points; d, sclerites from the crown; e, sclerites from the introvert; f, g sclerites from surface layer of the colony. Scale for c-e indicated by 0.1 mm bar by d.

Orlikia palmata sp. nov.
(Fig. 1a-e)

Material examined. HOLOTYPE - N 10090, Zoological Institute, Leningrad. PARATYPES - seven, N 1/9592, Institute of Marine Biology, Vladivostok; one, NTM C 11075, Northern Territory Museum of Arts and Sciences, Darwin. All material collected from the Gulf of Tonkin, depth about 70m, 1961, RV *Orlik*, coll. N.A. Zarenkov.

Description. The spirit preserved holotype is a very compressed colony consisting of a bare, rigid stalk slightly tapering towards the base, and an expanded, palm-like capitulum consisting of ten monomorphic polyps (Fig. 1a). The total height of the colony is 29 mm, of which about 18 mm is the stalk. The stalk is slightly curved in the proximal part and markedly compressed; its least width near the place of attachment is 1.8 mm, and in the upper part about 4 mm; it is about 1 mm thick. The base of the stalk is divided into root-like processes which are devoid of sclerites. The compressed, palm-like capitulum is about 1.5 mm thick in the middle part and up to 6.5 mm thick near the edges where the polyps are concentrated. Colonies, in the preserved state, laterally compressed (probably owing to the collapse of the thin-walled canals in the stalk and polyparium).

The anthocodiae are completely retracted into the well-differentiated tall slender calyces, which project obliquely upwards. The calyces are almost cylindrical, digitiform, up to 6.3 mm in height and 0.9 - 1.5 mm in diameter in the middle part. The anthocodiae are armed with sclerites in a crown and points arrangement (Fig. 1b). The anthocodial crown consists of six to seven rows of horizontally arranged straight or slightly curved spindles, up to 0.5 mm long and 0.08 mm wide (Fig. 1d). Each point consists of 10-12 pairs of spindles arranged in chevrons. Distally the spindles lie almost parallel to each other. Their size is up to 0.58 x 0.045 mm (Fig. 1c). Both point and crown spindles are sparsely covered by small spines. The tentacles are devoid of sclerites.

The distal part of the introvert is densely filled with irregularly distributed rods and ovals, up to 0.54 mm long and 0.13 mm wide (Fig. 1b,e). These sclerites are generally smooth, but sometimes minute spines can be seen. There are no sclerites in the proximal part of the introvert.

The sclerites in the calyces and in the surface layers of the capitulum and stalk are straight or

sometimes slightly curved, slender spindles, arranged longitudinally and parallel to each other, up to 3.5 mm in length and no more than 0.25 mm in width. They are ornamented with minute spines (Fig. 1f,g). The canal-walls of the stalk are thin and free of sclerites.

Variability. The paratypes agree in most respects with the major characters of the holotype and differ from it and among themselves only in size. The two smallest colonies, in addition to mature polyps, have one and four juvenile polyps respectively, with relatively short calyces.

Etymology. The genus is named in honour of the research vessel, the RV *Orlik*, that collected the specimens. The gender is feminine. The specific name refers to the palmate colony form.

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